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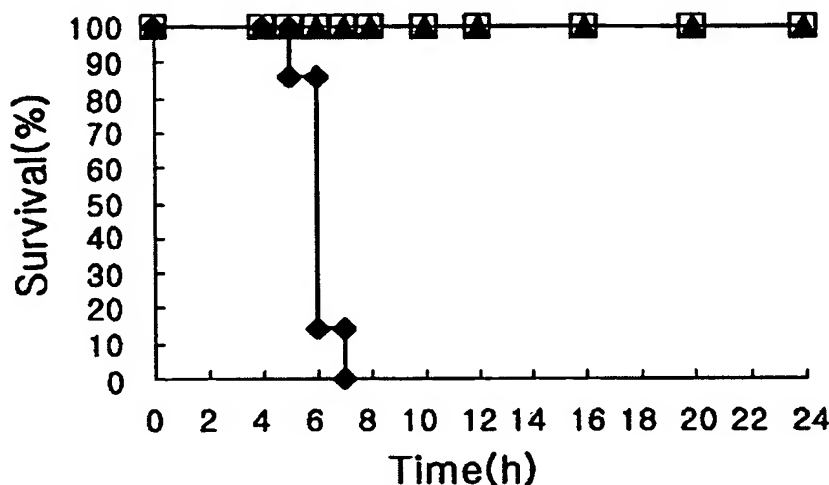
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[Continued on next page]

(54) Title: AN EXTRACT OF ACANTHOPANAX KOREANUM FOR THE TREATMENT OR PREVENTION OF HEPATITIS OR THE LIVER PROTECTIVE DRUG



(57) Abstract: The disclosure concerns an extract of Acanthopanax Koreanum and its use. More particularly, it concerns the extract of Acanthopanax Koreanum comprising: 1) the extract of Acanthopanax Koreanum extracted from water; 2) among the water extract, the extract of Acanthopanax Koreanum only containing ethanol insoluble part obtained by precipitating ethanol; 3) among the ethanol insoluble part, the extract of Acanthopanax Koreanum containing polysaccharide with a molecular weight larger than range of 12,000 ~ 14,000; or 4) among the ethanol insoluble part, the extract of Acanthopanax Koreanum containing polysaccharide with a molecular weight over 100,000, which is respectively obtained from the root or stem of Acanthopanax Koreanum. The extract of the present invention shows a high inhibition activity against hepatitis and protects the liver, and thus, can be usefully used for the treatment or prevention of hepatitis, or as a liver protective drug.



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INTERNATIONAL SEARCH REPORT

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
KOREAN PATENTS AND APPLICATIONS FOR INVENTIONS SINCE 1975Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PUBMED ON LINE, DELPHION ON LINE, KISTI ON LINE**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5900434 A (KWANG-HO PYUN ET AL.) 04 MAY 1999 SEE THE WHOLE DOCUMENT	1-10
Y	KR 0241269 B (LG CO., LTD.) 02 MAR. 2000. SEE PAGES 1-5	1, 2, 5-8, 10
Y	CHOI, IN POO ET AL., 'STUDIES ON DEVELOPMENT OF NOVEL FUNCTIONAL BIOLOGICAL MOLECULES: INVESTIGATION OF MECHANISM OF ACTIONS AND REGULATORY MOLECULES OF INFLAMMATORY CYTOKINES'. IN; FINAL REPORT TO THE MINISTRY OF SCIENCE & TECHNOLOGY, JUL. 1998.	1-10
Y	Tong L ET AL., 'Effects of plant polysaccharides on cell proliferation and cell membrane contents of sialic acid, phospholipid and cholesterol in S 180 and K 562 cells'. IN; Zhongguo Zhong Xi Yi Jie He Za Zhi, 1994 Aug, 14(8): 482-4.	3-4
P, Y	US 6365768 B1 (PALLADINO ET AL.) 02. APR. 2002 SEE THE WHOLE DOCUMENT	1-10
E, Y	KR 2003-0043191 A (KOLON. CO. LTD.), 02. JUN. 2003 SEE THE WHOLE DOCUMENT	1-10

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5900434 A	04.05.1999	WO 9534300 A1	21.12.1995
KR 0241269 B	02.03.2000	KR 1999-0047905 A	05.07.1999
US 6365768 B1	02.04.2002	WO 2079137 C1	07.11.2002
		WO 2079137 A1	10.10.2002
		WO 0073253 A1	07.12.2000
		US 20030050338 A1	13.03.2003
		US 20030040640 A1	27.02.2003
		JP 2003500464 T2	07.01.2003
		EP 1178952 A1	13.02.2002
		CN 1361760 T	31.07.2002
		CA 2372962 AA	07.12.2000
		BR 0011522 A	04.06.2002
		AU 0050133 A5	18.12.2000
KR 2003-0043191 A	02.06.2003.	NONE	